

REMARKS/ARGUMENTS

This paper is filed in response to the Official Action mailed May 4, 2006 for the above-captioned application. Reconsideration of the application, as amended, is respectfully requested.

Applicants have amended claim 60 to correct a typographical error, namely, to make it dependent on claim 59 instead of claim 56.

The 35 USC 112 rejections:

The Examiner has rejected claims 1-42 and 59-60 based on § 112 second paragraph, as being indefinite. Independent claims 1 and 59 have been amended, as requested by the Examiner, to (1) refer to the CIE 1931 color diagram; (2) define X and Y chromaticity coordinates; and (3) define chromaticity measuring factors. Support for this amendment may be found throughout the specification and more specifically at paragraphs 17-23.

The Examiner also rejected claims 6, 16, 25, 34, and 40 based on § 112 second paragraph. These claims have been amended, as requested by the Examiner, to delete reference to the term “derivatives”.

These amendments are believed to overcome the Examiner’s 112 rejections of the claims.

The 35 USC 103 rejections:

The Examiner again rejects all claims of the present application (i.e. 1-42 and 59-60) under 103(a). Now claims 1-16, 35-42, and 59-60 are rejected as being obvious over Lee (US 6,637,922) in view of Burns (US 5,605,761) and claims 17-34 as obvious over the combination Lee, Burns, and Lyons (US 6,155,694). Applicants traverse these rejections.

(1) The 103 rejections of claims 1-16 and 35-42:

Independent claim 1 of the present application, from which claims 2-16 and 35-42

depend, reads:

1. An automotive headlamp comprising:

a housing for receiving a light source;

a light source received in the housing;

an outer lens affixed to the housing and disposed such that light from the light source received in the housing passes through the lens;

wherein the lens comprises a polycarbonate and a photoluminescent material; and

wherein the light source and the material of the lens are selected such that light emitted from the light source is modified in chromaticity as it passes through the lens such that the illuminating beam from the headlamp has an average x chromaticity coordinate of 0.345 to 0.405 and has chromaticity coordinates inside the following boundaries as defined by the CIE 1931 color model and measured using spectrophotometric methods as presented in the ASTM standard E 308-66:

a blue boundary of $X = 0.31$

a yellow boundary of $X = 0.50$

a green boundary of $Y = 0.15 + 0.64x$

a purple boundary of $Y = 0.05 + 0.75x$

a green boundary of $Y = 0.44$

and a red boundary of $Y = 0.38$.

Lee does not disclose "altering chromaticity":

The Examiner **incorrectly** stated on page 4 of his December 1, 2005 office that the primary reference, Lee, "discloses an automotive headlamp and a method for altering chromaticity of the headlamp". In their February 2, 2006 response, Applicants pointed out that this statement was incorrect. There is no mention of either of the words "chromaticity" or "method" in Lee and therefore Lee in fact does not disclose a method of altering chromaticity of a headlamp. The Examiner now again incorrectly states, "Lee is silent with regard to the characteristic of the fluorescent material ***that is altering chromaticity*** of emitting light." See page 4 of the office action.

Applicants remind the Examiner that "brightness" and "chromaticity" **are not the same**

thing. “Chromaticity” refers to the quality of the color of the light which is characterized by X and Y coordinates in the CIE color model. “Brightness” on the other hand is an attribute of visual perception where one perceives an object to emit a given amount of light.

Lee makes no mention of the word chromaticity. All that Lee discloses is a “brightness” enhanced head lamp. *See, inter alia*, the title, the background section, the summary section, and finally detailed description section of Lee. The fluorescent material disclosed in Lee and cited by the Examiner only relates to enhancing the brightness of the headlamp.

The fluorescent material 4 fluoresces upon absorbing light generated by the head lamp’s light sources. When the two bulbs 12 and 12' are illuminated, the fluorescent material 4 in the head lens 2' **will enhance the overall light intensity so that the whole head lens surface will brighten.** Drivers of oncoming cars or motorcycles and pedestrians are thus more likely to take notice of the given vehicle. Thereby alerted, the drivers and pedestrians may take care to avoid collision, so that safety is enhanced.” *See* Lee, Column 2 lines 36-45.

Lee does not disclose or suggest the chromaticity altered headlamp of the present invention. It is noted that in further embodiments of the present invention, **in addition to altering chromaticity of the light source**, the lighting performance of the headlamp **may also** be improved, “in such manner as reducing glare, **increasing brightness**, or producing a beam that enhances road visibility at night to the human eye.” *See* paragraphs 11 and 13 of the present specification.

The present inventors have found and now claimed something that Lee fails to disclose. Independent claim 1, and therefore dependent claims 2-16 and 35-42 based thereon, claim a headlamp assembly, **wherein the light source and the material of the lens are selected such that light emitted from the light source is modified in chromaticity as it passes through the lens.** *See* independent claim 1, and therefore dependent claims 2-16 and 35-42. Namely, these claims provide a headlamp where the “quality of the color” (i.e. the chromaticity) of a light source is altered to produce an illuminating beam from a headlamp that is compliant with SAE standards (i.e. an illuminating beam of legal color within the “white box” as defined by the CIE 1931 color model). *See* paragraphs 16-23 of the present specification.

Applicants respectfully request the Examiner to point to where exactly by column and line number in Lee there is mention of word “chromaticity” or a method of altering chromaticity as such is claimed in the present application, or to provide a scientific basis for concluding that Lee discloses such. Failing such a showing, Applicants respectfully request the Examiner to stop referencing and relying on the phantom disclosure.

Burns fails to provide the limitations of the present claims that cannot be found in Lee:

For all the reasons listed above, Lee fails to disclose or suggest a chromaticity enhanced headlamp or a method of altering chromaticity of the headlamp’s light source to produce an illuminating beam having a different chromaticity. However, assuming arguendo that the Examiner’s position were correct and that Lee somehow discloses a “chromaticity” enhanced headlamp, neither Lee or Burns makes **any** mention of how to do it. Lee only discloses that the lens may contain a layer of light fluorescing material. See column 1 lines 49-55 and column 2 lines 33-34. Lee does not disclose: (1) what type of fluorescing material should be used; (2) the amount of fluorescing material to be used; and (3) what light source should be used in combination with what fluorescing material contained in the lens. Simply put, Lee’s disclosure of a “bulb” and “fluorescing material” does not provide nor does it suggest a headlamp assembly and method according to the presently claimed invention.

The Examiner cites Burns for providing missing limitations regarding the fluorescing material. However, Applicants note that Burns’ disclosure is related to highway signals/reflectors. These highway signals/reflectors simply reflect light or absorb and redirect light and therefore also fail to provide the missing limitations of: (1) selecting a light source in combination with (2) selecting a material of a lens to provide an illuminating beam that has color coordinates as prescribed by the present claims. Therefore, the combination of Lee and Burns fails to provide the invention as claimed.

The combination of Lee and Burns is one that is made in hindsight

After making the incorrect statement that "Lee is silent with regard to the characteristic of

the fluorescent material *that is altering chromaticity* of emitting light", the Examiner goes onto say that, in view of Burns, it "would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Lee's fluorescent material with the fluorescent dye having a x chromaticity coordinates within the range of 0.345 to 0.405 as disclosed by Burns . . . [sic]" See paragraph 11 of the office action. Not only would this combination not arrive at the present invention as described above, it is the type of statement that is made in hindsight.

Obviousness does not follow because something works, or because the principles of operation are only understood after an Applicant's disclosure. If it were so obvious to one skilled in the art to alter the chromaticity of specific light sources for use in headlamps to produce illuminating beams that have chromaticity coordinates within the white box of the CIE 1931 color model, than why is such not disclosed in Lee and why can one not find any disclosure of how to do it in **any** of the cited references? The only answer must be that the invention as claimed in the present application is not obvious.

Claim 1-16 and 35-42 of the present application are not obvious over the combination of Lee and Burns in light of the many shortcomings described above. Applicants therefore request the Examiner to withdraw the 103 rejections to these claims.

(2) The 103 rejections of claims 17-34:

The Examiner rejects claims 17-34 citing the combination of Lee, Burns, and Lyons. The Examiner cites Lyons for providing a disclosure for a halogen infrared reflective (HIR) light source as required by claims 17-25 as well as the protrusions described in claims 26-34.

Firstly, Applicants note that dependent claims 17-34 are dependent from claim 1 and therefore include the limitations described above. Applicants resubmit and incorporate by reference all of the arguments and remarks outlined above with regard to claim 1 and to the many deficiencies of the combination of Lee and Burns. The Examiner's citation of Lyons fails to provide the deficiencies outlined above. Therefore, Applicants submit that these claims are

likewise allowable.

Secondly, Applicants note that this reference is the first reference cited by the Examiner that has therein disclosed a specific light source (other than Lee's "bulb" and "neon lamp tube"). Here, an HIR light source is disclosed. However, Lyons fails to disclose or provide a suggestion or motivation of modifying the chromaticity of the light source as required by the present claims.

Claim 17-34 of the present application are not obvious over the combination of Lee, Burns, and Lyons in light of the many shortcomings described above. Applicants therefore request the Examiner to withdraw the 103 rejections to these claims.

(3) The 103 rejections of claims 59-60:

Independent claim 59 of the present application, from which claim 60 depends, recites:

59. A method for altering chromaticity of an automotive headlamp comprising the steps of,

selecting a partial headlamp assembly comprising a light source and a housing, wherein the light source has a first chromaticity;

selecting a lens comprising a polycarbonate and a fluorescent dye; and

affixing the lens to the partial headlamp assembly thereby forming a headlamp assembly, such that light emitted from the light source passes through the lens to form an illuminating beam, **wherein the composition of the lens is selected to modify the first chromaticity such that the illuminating beam has a second chromaticity that is different from the first chromaticity**, and said second chromaticity has an average x chromaticity coordinate of 0.345 to 0.405 and has chromaticity coordinates inside the following boundaries as defined by the CIE 1931 color model and measured using spectrophotometric methods as presented in the ASTM standard E 308-66:

- a blue boundary of $X = 0.31$
- a yellow boundary of $X = 0.50$
- a green boundary of $Y = 0.15 + 0.64x$
- a purple boundary of $Y = 0.05 + 0.75x$
- a green boundary of $Y = 0.44$
- and a red boundary of $Y = 0.38$.

Lee does not disclose a method of “altering chromaticity”:

As detailed at great length above, all of which is incorporated into this section by reference, Lee fails to disclose the word “chromaticity” and also any **method** of altering chromaticity. The Examiner simply brushes this fact aside when he **incorrectly** states that, “Lee is silent with regard to the characteristic of the fluorescent material ***that is altering chromaticity*** of emitting light.” *See* page 4 of the office action.

Again, Applicants respectfully request the Examiner to point to where exactly by column and line number in Lee there is mention of word “chromaticity” or a method of altering chromaticity or to provide a scientific basis for concluding that Lee discloses such. Failing such a showing, Applicants respectfully request the Examiner to stop referencing and relying on the phantom disclosure.

In connection with this distinction, Applicants would like to bring to the Examiner's attention recent decisions of the Court of Appeals for the Federal Circuit regarding the significance of limitations such as those found in claims 59 and 60. In *Jansen v. Rexall Sundown Inc.*, 68 USPQ2d 1154 (Fed. Cir. 2003) and *Rapoport v. Dement*, 59 USPQ2d 1215 (Fed. Cir. 2001), the Court considered the importance of preamble language concerning the purpose or intent of a therapeutic treatment as distinguishing administration of the same composition for a different purpose or intent. In those cases, the preamble limitation of intent was found to be an effective limitation based on the recitation of the administration to a patient in need of the specified treatment. Here, the selection of a lens material and a light source is made to achieve the stated purpose, and the result is a product headlamp having altered chromaticity.

Burns fails to provide the limitations of the present claims that cannot be found in Lee:

Claims 59 and 60 claim a method of altering the chromaticity of a light source as it passes through the lens by the selection of the light source in combination with the selection of the composition of the lens with respect to the selected light source. Namely, these claims provide a method of altering the “quality of the color” (i.e. chromaticity) of a light source to produce an

illuminating beam from a headlamp that is compliant with SAE standards (i.e. an illuminating beam of legal color within the “white box” as defined by the CIE 1931 color model).

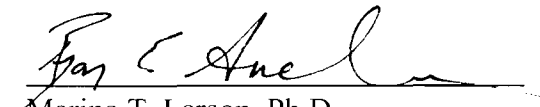
As detailed above, Burns’ disclosure is related to highway signals/reflectors that simply reflect light or absorb and redirect light. Burns’ disclosure fails to provide the missing limitations of (1) selecting a light source in combination with (2) selecting a material of a lens to provide an illuminating beam that has color coordinates as prescribed by the present claims. Therefore, the combination of Lee and Burns fails to also provide the invention as claimed in claims 59-60.

Claim 59-60 of the present application are not obvious over the combination of Lee and Burns in light of the many shortcomings described above. Applicants therefore request the Examiner to withdraw the 103 rejections to these claims.

Conclusion:

For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited. No fee or extension of time is believed to be due with the filing of this paper, however if such an extension is deemed due it is herein requested and the Commissioner is authorized to charge Deposit Account No. 07-0893.

Respectfully submitted,


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